

AirPort Extreme Card

User's Guide

Includes information about the AirPort Extreme Card and AirPort software

About Your AirPort Extreme Card

With the AirPort Extreme Card installed in your computer, you can

- Access an AirPort or other wireless network at home, school, work, or Internet "hot spots," and use it to browse the Internet, send and receive email, and more.
- Set up a Computer-to-Computer network between two or more AirPort-equipped computers, which you can use to transfer files or play multiplayer games.
- Set up a computer to share its Internet connection with computers using AirPort.
- Set up an AirPort network using an Apple AirPort, AirPort Extreme Base Station, or Airport Express. The Apple AirPort base stations are available from your Apple-authorized dealer or the Apple Store at store.apple.com.

Important: If you purchased an AirPort Extreme Base Station or AirPort Express at the same time as your AirPort Extreme Card, install the AirPort Extreme Card and then set up the base station using the instructions provided with it. The AirPort Setup Assistant described in this booklet is the same one used to set up the AirPort Extreme Base Station or AirPort Express. To set up the base station and configure your computer to access the AirPort network it creates, you need to use the AirPort Setup Assistant only once.

Your AirPort Extreme Card is compatible with all versions of the AirPort base station.

About AirPort

AirPort offers a simple, fast, and affordable way to provide wireless Internet access anywhere in your home, classroom, or small office. Instead of using traditional cables to create a network, AirPort uses wireless local area network (LAN) technology to provide wireless communication between computers.

How AirPort Works

In a traditional network, computers are connected through a series of wires that transfer information. With AirPort, data is transferred between computers over a wireless network using radio waves.

There are three ways to create a wireless network:

- Use an AirPort-equipped computer to create a temporary Computer-to-Computer network, which other AirPort computers within range can join.
- Use the Internet pane of Sharing preferences to set up an AirPort-equipped computer with an Internet connection to share the connection with other computers using AirPort.
- Create a more permanent wireless network using an AirPort base station. In this kind of network, all wireless communication goes through the base station to other computers on the network or to the Internet.

How AirPort Provides Wireless Internet Access

The following are ways that you can use AirPort to provide Internet access to AirPort-equipped computers:

- Connect an AirPort base station to an existing network that already has Internet access, such as in a school or small office.
- Connect a cable modem or DSL modem to an AirPort base station, or if your base station has an internal modem, connect it to a telephone line. The AirPort base station establishes an Internet connection and also creates a wireless network through which multiple computers can access the Internet.

Note: To use AirPort to access the Internet, you must have an account with an Internet service provider (fees may apply). Some Internet service providers (ISPs) are not currently compatible with AirPort.

For more information on using AirPort with your Internet account, contact your ISP or go to the AppleCare Knowledge Base at kbase.info.apple.com.

Setting Up Your Computer to Use AirPort

Step 1: Do You Need to Install the AirPort Extreme Card?

If you ordered your AirPort Extreme Card with your new computer, the card is already installed. If the AirPort Extreme Card came in a separate kit, you need to install it yourself. Instructions for installing the AirPort Extreme Card are in the manual that came with your computer. You can also find them on the Apple Support website at www.apple.com/support.

Warning: The AirPort Extreme Card has been designed so that you can install it yourself in some computers. If, after reading the installation instructions that came with your computer, you feel uncomfortable about installing the card, you can have an Apple-authorized service provider install it for you. If you follow the instructions, you should not be concerned about damaging your computer. However, if you do attempt to install the AirPort Extreme Card yourself, any damage you may cause to your equipment will not be covered by the limited warranty on your computer. See an Apple-authorized dealer or service provider for additional information about this or any other warranty question. Consult the service and support information that came with your computer for instructions on how to contact an Apple-authorized service provider or Apple for service.

Do I need to know the MAC address of my AirPort Extreme Card?

If you are going to use your computer on a large wireless network, such as in a school or office, you may need to provide the MAC (Media Access Control) address (sometimes known as the AirPort ID) of your AirPort Extreme Card to your network administrator. Your network administrator can use the MAC address to provide an extra level of security for the network. The MAC address is 12 characters printed on a label on the AirPort Extreme Card. You can also find your AirPort ID by opening Network preferences, choosing AirPort from the Show pop-up menu, and clicking the AirPort tab.

Do I need to install an AirPort antenna?

No. The antenna used by the AirPort Extreme Card is already built into your computer.

Step 2: Set Up Your Computer to Use AirPort

If you are going to use your computer with a wireless network that is already established (such as in a school or office), do the following:

1 Make sure the AirPort software is installed on your computer.

If you ordered the AirPort Extreme Card with your new computer, the AirPort software is already installed. You may not have a separate AirPort CD.

Note: To make sure that your computer has the latest version of the AirPort software installed, open System Preferences and click Software Update or check the Apple AirPort website at www.apple.com/airport.

2 Choose the network you want to join from the Airport status icon in the menu bar.

If you are setting up an AirPort Extreme Base Station or an AirPort Express, you can use the AirPort Setup Assistant.

- Open the AirPort Setup Assistant (located in Applications/Utilities) and follow the onscreen instructions.



If an error message says the AirPort Extreme Card is not detected:

- Shut down your computer and make sure the AirPort Extreme Card is oriented properly and that it is completely inserted into the AirPort Extreme Card slot. Make sure the AirPort antenna is securely connected to the card and the connector on the other end of the card is firmly inserted into the connector in the AirPort Extreme Card slot.

If you are unable to detect the network you want to connect to:

- Make sure that you are in range of an AirPort base station. The typical range for an AirPort network is up to 150 feet (45 meters) in any direction from the base station.
- Try to move away from possible sources of interference, such as cordless telephones, microwave ovens, and metal walls, that may be preventing you from connecting to the network. For a complete list of sources of interference, see the document "Designing AirPort Extreme Networks" located on the AirPort CD, or at www.apple.com/airportextreme.

Step 3: If Necessary, Set Up the AirPort Base Station

If you purchased the AirPort Extreme or AirPort Express Base Station at the same time as your AirPort Extreme Card, do the following:

1 If necessary, install the AirPort Extreme Card in your computer.

2 Skip the rest of the steps in this booklet and set up the AirPort base station using the instructions provided with it.

Step 4: Join a Wireless Network

To join an AirPort wireless network, choose a network from the AirPort status icon in the menu bar. Enter the password for the network if necessary. If you are joining a closed network, choose Other from the list, and then type the name and password of the network.

Note: To show AirPort status in the menu bar, open System Preferences and click Network. Choose AirPort from the Show pop-up menu, then click AirPort. Select the "Show AirPort status in menu bar" checkbox.

Joining a 128-Bit Encrypted Wireless Network

If you want to join a third-party wireless network that requires 128-bit encryption, you have two options for entering a password, depending on the password scheme the network administrator has set up.

If you were given a password that is 13 characters, you may need to use double quotation marks before and after the password. Thirteen-character passwords are usually case-sensitive.

Example: `"password12345"`

If you were given a password that is 26 characters, you may need to put a dollar sign ($) before the password.

Example: `$1234567890123456789abcdef`

If you need additional information on your 128-bit password, contact your network administrator.

Joining a network protected by Wi-Fi Protected Access (WPA)

If you are joining a network protected by WPA Personal, enter the user name and password you were given by the network administrator. If you are joining a network protected by WPA Enterprise, in addition to entering your user name and password, you may need to enter information about the RADIUS server. See your network administrator if you are joining a WPA Enterprise network.

Setting Up a Wireless Network With Your Computer

If you create a Computer-to-Computer wireless network or set up your computer to share its Internet connection with computers using AirPort, by default AirPort uses 40-bit encryption when you use a password to protect your network. Computers with 128-bit cards access the network using 40-bit encryption. If you want to require 128-bit encryption on your network, use the 128-bit password scheme of 13 characters in double quotation marks. Only computers with 128-bit cards can join your network.

To set up your computer to share its Internet connection, open Sharing preferences, click Internet, and select how you want to share the connection. If you are sharing your computer's Internet connection using AirPort, click the AirPort Options button and give your network a name and password.

A computer set up to share its Internet connection wirelessly is sometimes referred to as a *software base station*.

What's Next?

Additional AirPort Software

In addition to the AirPort Setup Assistant, you can use the following software to work with AirPort.



AirPort Admin Utility
AirPort Admin Utility is an advanced tool for setting up and managing the AirPort Extreme Base Station. Use AirPort Admin Utility to adjust network, routing, and security settings and other advanced options. AirPort Admin Utility is located in Applications/Utilities.



AirPort status menu in the menu bar
Use the AirPort status menu to switch quickly between AirPort networks, monitor the signal quality of the current network, create a Computer-to-Computer network, and turn AirPort on and off.

For more information on AirPort, see AirPort Help. Open AirPort Admin Utility and choose Help > AirPort Help. There you will find information on setting up an AirPort network using an AirPort base station, editing base station settings, avoiding sources of interference, locating additional information on the Internet, and more.

For in-depth information on configuring AirPort networks, see the "Designing AirPort Extreme Networks" document located on the AirPort CD. The document is also available at www.apple.com/airportextreme.

In addition to AirPort Help and "Designing AirPort Extreme Networks," you can find more information at the following Apple websites:

- Apple AirPort website at www.apple.com/airportextreme
- Apple Support website at www.apple.com/support

Be sure to register your AirPort Extreme Card at www.apple.com/register.

AirPort Extreme Card Specifications

- *Wireless Data Rate:* Up to 54 megabits per second (Mbps)
- *Range:* Up to 150 feet (45 meters) from the base station in typical indoor use (varies with building)
- *Frequency Band:* 2.4 gigahertz (GHz)
- *Radio Output Power:* 15 dBm (nominal)
- *Standards:* Compliant with 802.11 HR Direct Sequence Spread Spectrum (DSSS) 11 Mbps standard, 802.11 DSSS 1 and 2 Mbps standard, and 802.11g specification

Communications Regulation Information

FCC Declaration of Conformity
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See instructions if interference to radio or television reception is suspected.

Radio and Television Interference
The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple's instructions—it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your computer system is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions.

Important: Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of Apple peripheral devices and Apple shielded cables and connectors between system components. It is important that you use Apple peripheral devices and shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. You can obtain Apple peripheral devices and the proper shielded cables and connectors through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

Responsible party (contact for FCC matters only):
Apple Computer, Inc.
Product Compliance
1 Infinite Loop M/S 26-A
Cupertino, CA 95014-2084
408-974-2000

FCC Wireless Compliance
The antenna used with this transmitter must not be collocated or operated in conjunction with any other antenna or transmitter subject to the conditions of the FCC Grant.

Industry Canada Statement
This Class B device meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

VCCI Class B Statement

情報処理装置等電波障害自主規制について

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラス B 情報技術装置です。この装置は家庭環境で使用されることを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取扱をしてください。

Europe–EU Declaration of Conformity
Complies with European Directive 1999/5/EC
See www.apple.com/euro/compliance/.

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